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## SOUTH'S PULP INDUSTRY STILL GROWING

The Nation's pulpwood industry continues to move southward. Since 1946, 25 new southern mills have been built and existing plants have doubled their capacity. At the close of 1958, the South had 75 pulpmills, with a total capacity of more than 44,000 tons per day. These plants have 57 percent of the national capacity, as compared to 47 percent in 1946. Five new mills are in prospect.

Pulpwood production in the 12 southern States during 1958 was 20,232,800 cords of roundwood and residues. This volume, which is slightly greater than that in 1957, made up more than half of all pulpwood produced in the United States. It is double that of the region's 1946 harvest.

Last year's hardwood cut, of 2,944,600 cords, set a new southern record for the eighth consecutive year. The cut of pine bolts was 15,502,800 cords, a drop of 1.3 percent from 1957. The decline in pine bolts was more than offset by chips salvaged from residues of wood-using plants, chiefly slabs, edgings, and off-grade lumber at pine sawmills. The use of such material rose from almost nothing in 1952 to 1.8 million cords in 1958. Well over 400 sawmills and veneer mills have equipment for converting residues into chips, and many new installations are in prospect.

A review of southern pulpwooding trends since 1946 and detailed data on the 1958 harvest are available in Forest Survey Release 82.--  
Joe F. Christopher.

## SITES AND SEEDLING GRADES INFLUENCE LOBLOLLY GROWTH

In north Mississippi three-year growth of loblolly pine seedlings planted under a deadened overstory of ridge hardwoods averaged considerably better than for seedlings planted on eroded sandy or loessial old fields. Though few seedlings escaped attack by tip moths, three-year growth was 4.7 feet on the ridge, 3.0 feet on the sandy field, and 2.7 feet on the loessial field. Height differences between the ridge seedlings and those on either of the old-field sites were highly significant.

Height growth of "large" seedlings corresponding to morphological grade 1 (0.6-foot stem) was 0.63 foot more on loessial old fields and 0.83 foot more on sandy old fields than growth of "small" grade-2 seedlings (0.4-foot stem). The difference in height growth between grades, averaged over all sites, was highly significant (at .01 level). On the hardwood conversion site alone, however, the difference was not significant.

Third-year survival averaged 69 percent, with no significant differences attributable either to site or grade. Twelve percent of the ridge trees were damaged by debris falling from the deadened overstory.

The study indicates the growth potential of loblolly pine when planted on ridge sites occupied by low-value hardwoods, and the desirability of planting the better morphological grades on eroded old-field sites where a permanent cover needs to be restored. --S. J. Ursic.

## GIRDLE OR FELL OAKS TO RELEASE PINES?

For releasing planted pines, is felling the hardwood overstory better than girdling it? A test near Birmingham, Alabama, indicates that loblolly pine seedlings can't tell the difference.

In February 1956, loblolly pines were planted on plots where southern red oaks from 10 to 12 inches in diameter had been either girdled, felled, or left untreated. Ammate had been applied to all girdles or stumps to reduce sprouting.

After 3 years, pine survival was 91 percent under the girdled oaks and 94 percent where the oaks had been felled. Survival under the living oaks was 27 percent. Some pines were bent or broken by the falling limbs of the girdled oaks.

The total 3-year height of the pines was 7.5 feet under the girdled oaks, and 7.7 feet where oaks had been felled. The released pines grew almost 3 feet annually during the second and third years. Those under the heavy oak overstory were 1.7 feet tall after 3 years.

During the growing season, moisture in the top 18 inches of soil was considerably more abundant on released areas than on the unreleased ones. Method of release made no difference in soil moisture. --Glendon W. Smalley.

### SEEDED AND PLANTED PINES GROW AT SIMILAR RATES

In the pinehills of south Alabama and west Florida, pine seedlings established by direct seeding have grown at about the same rate as transplanted nursery seedlings.

Slash, loblolly, and shortleaf pines were direct-seeded on 1-acre plots at 4 locations during the winter of 1956-57. One hundred 1-0 nursery seedlings were planted adjacent to each seeded plot.

In October 1958, after two growing seasons in the field, the seeded stock of each species was roughly two-thirds as tall as the planted stock. Since the planted stock was 3 growing seasons from seed and the seeded stock was two, average

periodic annual growth was about the same. The seeded pines averaged 1.4 feet in height, the transplants, 2.4 feet. Hence, the average annual height growth was 0.70 and 0.79 foot, respectively. --Robert M. Farrar, Jr.

### BENZOIC ACID INEFFECTIVE ON HARDWOODS

Polychlorobenzoic acid was recently tested in granular form as a soil sterilant in the Ouachita Mountains of Arkansas. The chemical was applied to the soil surface both broadcast and around individual white oak rootcollars. It had little or no effect on the oaks, but broadcast application killed practically all shortleaf pines up to 12 inches d.b.h.

The formulation consisted of polychlorinated benzoic acid on an attaclay carrier as dry granules varying in diameter from 1/15 to 1/8 inch, with acid comprising 25 percent of total weight. The dosage was 12½ grams of granules per inch of individual tree diameter, or per inch of aggregate tree diameter on the plots where application was broadcast. This amounted to about 80 pounds of granules per acre (or 20 pounds of acid), as the test plots had about 3,000 inches of tree diameter per acre. --James L. Smith.

### RECENT PUBLICATIONS

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- \*Peevy, F. A. *Foliar application*. Forests and People, Second Quarter, 1959, pp. 20-21, 46.
- Putnam, J.A. *Initial management of hardwoods*. Two parts. Forest Farmer, June 1959, pp. 6-8, 18-19; July 1959, pp. 10-12, 18.
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- \*Scheer, R.L., and Woods, F.W. *Intensity of preplanting site preparation required for Florida's sandhills*. Occasional Paper 168, 12 pp.
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- Woods, F.W. *Nutritional aspects of wiregrass from Florida sandhills*. Journal of Range Management, May 1959, p. 141.

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\*Copies are available at the Southern Station.